

Com.X10 Gateway



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Integrated Access Gateway

Integrated Access Device: Firewall & Router

VoIP Gateway: SIP, ISDN, PSTN

Access technologies: Telco, IP, GSM/LTE

Upgradable to 3CX PBX package



Feature highlights

- 1U * 19" rack-mount format
- SIP trunks: Order option for 30, 60, 90 & 120 simultaneous G.729a CODEC's
- Telephony hardware:
 - 0, 2, 4, 6, or 8 Analogue (FXS or FXO)
 - 0, 4 or 8 Basic Rate ISDN (TE or NT mode)
 - 0, 1, 2, 3 or 4 Primary Rate ISDN (TE or NT mode)
- WAN ports:
 - 4 Gigabit Ethernet
 - 1 LTE (cat 4 or 6)
- LAN ports:
 - 4 Ethernet, 2 * USB2.0 (1 * OTG / Host, 1 * UART)
- Port Expansion: Simply add one or more Comma iTA units via Ethernet LAN
- Network Protocols and Services: PPP / PPPoE, HDLC, IPv4, DNS, VPN, NTP, SSH, HTTP, VLAN
- Routing: Static, NAT, NAT traversal, Port Forwarding, SIP ALG
- Firewall: Policies, Access Control Lists, Inbound/Outbound Filters, DMZ
- SIP Gateway features: B2B User Agent, Call Recording, Announcements, T.38 fax, register 2 local extensions
- QoS:
 - Network Class of Service: DSCP and 802.1P
 - "ViBE" integration, Voipex (UK)
- Call Recording "Call Manager": 250,000 minutes on device
- Web-based GUI: User friendly, install and configuration "wizard" with configuration backup & restore
- ICASA type approval (TE-2011/020)

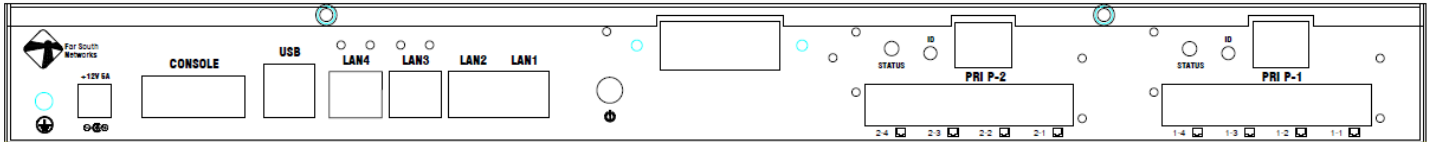
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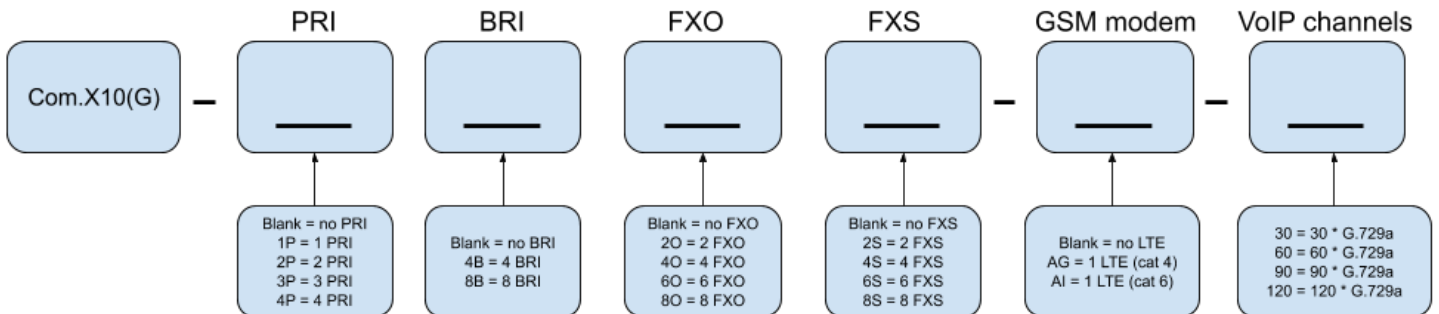
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Ordering Information

Part Number Generator



The Com.X10 is modular, with the ordering code made up as follows. Not all combinations are possible.



Note:

Total BRI, FXS plus FXO ports may not exceed 8 ports per Com.X10 unit

Com.X10(G) defines SIP Gateway feature set with support for 3CX PBX application upgrade

BRI, PRI, FXS & FXO technical specifications within the Com.X10 “Quick Start” and “Installation Guides”

Part number examples (many other build options are available):

Com.X10(G)-SX-30	SIP Gateway, 30 * G.729, 4 Ethernet
Com.X10(G)-SX-AI-30	SIP Gateway, 30 * G.729, 4 Ethernet, LTE cat 6
Com.X10(G)-8O-30	SIP Gateway, 30 * G.729, 4 Ethernet, 8 FXO
Com.X10(G)-8B-30	SIP Gateway, 30 * G.729, 4 Ethernet, 8 BRI (TE or NT mode)
Com.X10(G)-IP-AG-30	SIP Gateway, 30 * G.729, 4 Ethernet, 1 PRI (TE or NT mode), LTE cat 4
Com.X10(G)-IP8O	SIP Gateway, 30 * G.729, 4 Ethernet, 1 PRI (TE or NT mode), 8 FXO
Com.X10(G)-IP-30	SIP Gateway, 30 * G.729, 4 Ethernet, 1 PRI (TE or NT mode)
Com.X10(G)-2P-60	SIP Gateway, 60 * G.729, 4 Ethernet, 2 PRI (TE or NT mode)
Com.X10(G)-4P-120	SIP Gateway, 30 * G.729, 4 Ethernet, 4 PRI (TE or NT mode)

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Technical Specifications

Host Processing Platform	Com.X10
CPU	Intel Bay Trail Celeron N2930 CPU, 1.83GHz, Quad Core
Memory	4GB DDR3
Storage	128GB MSATA SSD (Optional dual RAID 1TB HDD)
I/O Ports	4 x GbE LAN (+2 * 100Base-T for 2PRI models), 2 x USB 2.0, 1 x RS-232
WAN ports	LTE
Operating System	Ubuntu Linux 16.04 LTS

Telephony Interfaces (per unit)

	Primary Rate	Basic Rate	Analog (FXS)	Analog (FXO)
Voice Ports	30 or 60 (E1)	8, 16	2, 4, 6, 8	2, 4, 6, 8
	Note: Telephony port expansion supported via connection of Comma iTA units			
Physical	RJ-45	4 x RJ-45	RJ-11	RJ-11
Electrical	E1/G.703 120Ω T1/G.703 100Ω	S/T TE or S/T NT (software selection)	Zone dependent, software programmable DC and AC characteristics. Balanced sinusoidal ringing (3 REN)	Zone dependent, software programmable impedance matching.
Protection	Power cross Inter-building	-	Power cross Inter-building	Power cross Inter-building
Conformance	TBR 4	TBR 3		TE-001 (Country-dependent)

Voice Features

Echo Cancellation	Hardware based G.165 type adaptive echo cancellation per channel Up to 64 channels at 16 ms or 32 ms Up to 32 channels at 64 ms (Up to 64 channels at 64ms for 2 PRI models)			
Hardware Codecs	-	-	G.711 A-law or μ-law	G.711 A-law or μ-law
Software Codecs	G.711, G.726, iLBC, GSM G.729A (optional with license purchase)			
Fax and Modem	Packet-network synchronization and G.711 provide transparent fax/modem support			

Signaling

Signaling System	ISDN PRI - ETSI ISDN PRI - NI-2 E1-CAS T1-CAS	ISDN BRI – ETSI ISDN BRI - NI-2	Loop-start DTMF	Loop-start DTMF
Other Features	Configurable network clock synchronization	Configurable network clock synchronization	Caller ID transmission Hook flash Distinctive ring	Caller ID reception

Packet Interfaces

VoIP	SIP + RTP
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RF Interfaces (FMC)

	LTE category 6 (Advanced)	LTE category 4
Antenna Geometry	Dual Rx diversity	Dual Rx diversity
Antenna connector	2 * SMA(F)	2 * SMA(F)
Antenna gain (Omni-850)	2.5dBi	2.5dBi
Frequency range	690MHz – 2700MHz	690MHz – 2700MHz
Polarisation	Linear Vertical	Linear Vertical
SIM slot	Micro SIM	Micro SIM
GSM Frequencies	900 / 1800MHz	900 / 1800MHz
WCDMA bands	1, 3, 5, 8	1, 5, 8
LTE bands	1, 3, 5, 7, 8, 20, 26, 28, 38, 40, 41	1, 3, 5, 7, 8, 20, 38, 40, 41
Carrier Aggregation	2	Non
FDD	50Mbps (UL), 300Mbps (DL)	50Mbps (UL), 150Mbps (DL)
TDD	28Mbps (UL), 266Mbps (DL)	35Mbps (UL), 130Mbps (DL)
GSM	LTE cat 6, WCDMA 3GPP DC-HSDPA	LTE cat 4, WCDMA 3GPP DC-HSPA+
Modulation	QPSK, 16-QAM, 64-QAM	QPSK, 16-QAM, 64-QAM

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Approvals	ICASA pending (Quectel EP06E – mPCIE)	ICASA TA-2017/2652 (Quectel EC25E – mPCIE)
Administration		
Management	Web based GUI, including platform backup and restore	
Logging	Log (with configurable levels)	
Field upgrade	Application and firmware remote update from hosted repository	
Call Detail Records	MySQL database for CDR	
Physical Characteristics		
Power	12VDC, 5A via external AC/DC adapter (supplied)	
Environmental	0°C - 40°C	
Dimensions	427mm x 200mm x 43mm	
Mounting	Desktop or 1U rack mount (mounting kit supplied)	
Certification		
Safety	IEC 60950-1:2001 & SANS 60950-1:2003	
EMC	CISPR22 Class A	
Other	TBR3, TBR4, ICASA TE-001 (South Africa)	

Refer to Com.X Administrators Guide for feature set specification, available at: <http://farsouthnet.com/support/manuals/>

Gateway Feature Set

The short list of features provided below is common across all Com.X(G) platforms:

SIP Gateway Features		
<ul style="list-style-type: none">Remote Management:<ul style="list-style-type: none">Monitoring & DiagnosticsBackup and restoreCall flow analysis	<ul style="list-style-type: none">Networking:<ul style="list-style-type: none">DHCP, DNS, NTPHTTP, VPN, SSH, VLAN	<ul style="list-style-type: none">Security:<ul style="list-style-type: none">Firewall policyAccess Control listsIn/Outbound filterDMZ
<ul style="list-style-type: none">Fail2Ban security module	<ul style="list-style-type: none">Routing: Static, NAT, Forwarding, SIP ALG	Call Recording Manager: 30,000min
<ul style="list-style-type: none">B2BUA mode	<ul style="list-style-type: none">SIP / (TCP or UDP)	<ul style="list-style-type: none">TOS/COS: DSCP, 802.11p
<ul style="list-style-type: none">SIP proxy registration	<ul style="list-style-type: none">Trunk to Trunk routing	<ul style="list-style-type: none">QoS: ViBE management
<ul style="list-style-type: none">Register 2 phones (emergency calls)	<ul style="list-style-type: none">Outbound route configuration (LCR) and multi-level trunk fail-over	<ul style="list-style-type: none">Atmos compliant "Call Recording" from Call Cabinet
<ul style="list-style-type: none">T.38 fax	<ul style="list-style-type: none">Budget Trunk Router (minutes/month)	<ul style="list-style-type: none">